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## ON THE HABITS OF THE STONE CURLEW OR THICK-KNEE, *ŒDICNEMUS CREPITANS*.

By F. MENTEITH OGILVIE.

THE days of this bird, I fear, are numbered in this country. A few years ago the district of which I write had twenty pairs where now scarcely one can be found, and this notwithstanding the fact that, except in a very few instances, they have not been persecuted or molested. This, I believe, is partially owing to the larger number of cattle kept on the heathy commons or moorlands to which they resort, and which, no doubt, with their attendant herdsmen, disturb and frighten them, and also to the destruction of their eggs by Rooks. One of the greatest male-factors a Southern keeper has to contend with in these days is the Rook. It was not always so; once the Rook was good and harmless, and lived on grubs and worms. But now, all this is changed: he has become depraved in his appetite; he has found that eggs are easier to get, and form a daintier dish, than wire-worms or grubs; so eggs he must have. The amount of damage a Rook does during the "egging time" is simply incalculable. Starting with the Green Plover or Peewit, *Vanellus cristatus*, he goes steadily through the list of eggs provided, finishing up with the second laying of Partridges and Pheasants. Nothing in the shape of eggs comes amiss to him—fresh, rotten, or just on the point of hatching; all are devoured. I have watched Rooks early in April hunting the meadows for the unfortunate Peewit's eggs, quartering the ground with the

regularity of well-trained setters; and again in May, in the early mornings, searching the commons and hedgerows for Partridges' nests. When once a nest is found, woe to the owner thereof, for the robber does his work thoroughly, and leaves behind him but a few egg-shells. The eggs are generally carried away to a distance, but I have seen Peewits' eggs sucked *in situ*, while the wretched parents were screaming overhead.

No mercy is shown to the Grey Crow, *Corvus cornix*, in the North: no one has a good word to say for him; he is justly recognised as an evil doer, and strict are the laws meted out to him. Yet his black cousin of the South is beloved of poets, praised by naturalists, who appear to think he spends his life in honest toil, assisting the farmer, and saving his crops from insect ravages, and even keepers may be found who will put in a good word for him. But a day will come, unless he mends his ways, when the Rook will be known for what he is—when his fate will be even as the Hoodie's, and every man's hand will be against him.

To return, however, to the Stone Curlew or Thick-knee. It is the destruction of their eggs, no doubt, more than anything else, that has led to their diminution, and will lead to their extermination; and the fact that much waste ground, eminently suited to their needs, has been reclaimed in the last quarter of a century, and placed under cultivation.\*

The bird arrives here early in May, and leaves late in September.† Like most of the later migrants, I think, it nests within a short time of its arrival. The nest is a mere hollow scraped in the bare peaty or sandy earth, in which the two eggs are deposited. The eggs are beautifully protective in colour, and extremely difficult for an inexperienced person to find, though they lie, large and boldly-marked, on the bare earth. The earth

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\* In the South of England, particularly in the counties of Kent, Sussex, and Wilts, the diminution in numbers of the Stone Curlew may be attributed to another cause—namely, the modern practice of rolling the young wheat in spring. In the counties referred to, the eggs of this bird at one time might have been found every spring upon the fallows; but now the heavy horse-roller passes over them; for the farm-labourer, even if observant enough to notice them, is generally too lazy or too indifferent to stop his horses and remove the eggs on one side out of harm's way.—Ed.

† In 1891 the first pair seen appeared on May 10th; the last were seen on September 23rd.

on which the eggs are laid is generally brown at first, but, as incubation proceeds, the rain and the sun gradually transform this brown colour into a dull grey, by washing the brown earth and leaving the sandy particles on the top. This is a point which, I think, may be of some small service to the birds, for the darker colour seems more protective for the eggs and the lighter tint for the nestlings. The Stone Curlew generally makes its scanty nest in the middle of a bare field or moorland waste, so that it is quite impossible to approach without the bird seeing the intruder, and she always steals quietly away at the earliest threatening of danger, leaving her eggs to take care of themselves, and well aware of the danger of remaining by them. I have never heard the Stone Curlew utter any note during the daytime, whether disturbed from the nest or merely flushed by chance, but after sundown they become very noisy, and their weird cries may be heard throughout the night, ceasing only as the morning begins to dawn. The local name in this district is "Shriek Owl" (from the cry, of course), and the name is appropriate. This cry is generally described as a whistle, even a "melodious" whistle; possibly this is the best description of it, but I always think it wants some epithet added to it, such as "weird" or "ghostly." Their wild cries, ringing out loud and clear on a still night, always suggest something uncanny.

I had this year an excellent opportunity of watching a pair of these birds which laid in their usually exposed situation on the common, but within about seventy yards of a large gorse-bush. I constantly tried to observe them by stalking behind this bush, but always failed, till at last the idea occurred to me of walking boldly up, disturbing them, and then laying up in the gorse-bush. This proved successful. After waiting about half an hour, I had the pleasure of seeing the female bird steal up to the nest and settle on the eggs. The male bird appeared at the same time, and stood on a raised knoll at some distance from the nest, evidently on sentry duty, and watching for danger from every quarter.

While I was looking at them, I unfortunately broke a small twig of gorse, in trying to shift myself into a more comfortable position. In a moment I was detected: both birds turned their heads sharply in my direction; the male disappeared over the side of the knoll; the female raised herself off the eggs, and stole away, with head lowered and neck extended, at a fast crouching

kind of a run, and though I waited another half an hour, nothing would induce them to return, but I occasionally caught a glimpse of the head of the male just showing over the top of the knoll, and evidently prospecting to see if the ground was clear. Not wanting to disturb the birds, I left my hiding-place, but I never had another opportunity of watching them, for they would not again approach the nest without first carefully scanning the gorse-bush, and making sure that no one was concealed there.



Eggs of the Stone Curlew, *Ædicnemus crepitans*. From a photograph by Mr. C. E. Salmon, of Reigate.

I watched these eggs hatching, and noticed an interesting fact connected therewith that I think deserves recording.

Both eggs were sprung on the 31st May: on the morning of June 1st, the eggs had two little holes in them, and the beaks of the nestlings were showing inside; at 6 p.m. on that day the first bird hatched, and at that hour was half out of the shell, and still wet, the egg having evidently only just broken; at 8 p.m. I again examined the nest, and found the first bird quite dry, and the still remaining egg not yet broken, though clearly on the point of doing so. But the egg-shell which I had seen in the nest at 6 p.m. was now nowhere to be seen. This was unquestionably removed by the parent birds as soon as the young one was hatched and

clear of the egg, and must have been done immediately after my visit at 6 p.m.

The young birds and the eggs are both protective in colour; but a broken egg-shell, with the remains of membranes and blood-vessels inside, is by no means so. In fact, it is a kind of sign-post pointing out the whereabouts of the nest to all comers. No one passing the nest could fail to see the broken egg-shell lying on the ground, and a Stoat or a Rook would observe it even more readily.

Young Thick-knees are able to leave the nest at a very early period; but I doubt if this period is ever less than twelve hours, and in the case of an egg remaining unhatched for some hours after the other (as happened here), the danger of leaving the egg-shell would be very great.

I believe that an almost constant law might be formulated, that birds which make open nests upon the ground remove their egg-shells immediately the young are hatched. This habit is noticeable not only in the birds referred to, but in others building in similar situations; for instance, the Green and Golden Plovers, *Vanellus cristatus* and *Charadrius pluvialis*, and the Common and Lesser Terns, *Sterna hirundo* and *S. minuta*. I have found a nestling Common Tern in a nest with two eggs, but no sign of an empty egg-shell, and have seen a Green Plover's nest with eggs one day sprung, and on returning the next day have found nothing whatever—neither nestlings nor egg-shells. From this, I think, we may conclude that the parents removed the egg-shells as each bird was hatched. The young cannot leave the nest so long as an egg on the point of hatching remains in it, since the mother must sit on this egg, and will brood over the newly-hatched nestling at the same time.

I have seen a few pounded fragments of shells in the nest of a Redshank, *Totanus calidris*; but this bird hardly comes in my category, since it does not build an *open* nest upon the ground. The nest is generally placed in a tuft of coarse grass or short rush, with a side entrance to it over which the parent bird draws the grass like a curtain on leaving or entering. If a Redshank laid absolutely in the open, like a Plover, I have no doubt the egg-shells would be destroyed or removed at once by the parent birds.

On the other hand, look at the game birds which build on the ground, but conceal their nests; with them the broken egg-

shells are left in the nests. The young are able to take care of themselves no sooner than is the case with the Plovers, but the egg-shells, in their hidden position, present no dangers, and consequently they are left. It is very often not till autumn frosts have knocked the leaves off the hedgerows that we become aware of the position of some of the Partridges' nests of the previous spring, and this by seeing a mass of broken shells in the long-deserted nest. Supposing that Partridges' eggs were protectively coloured, and were laid on the bare ground in the open like those of a Plover, and by this protective coloration escaped danger till the time of hatching, it is impossible to believe that the broken shells would be left lying about on the ground till the last of the fifteen or sixteen eggs had hatched.

The young of the *Charadriidæ*, equally with the game birds, are able to follow the parents *almost* immediately they are hatched. But it is this "almost" which would be the fatal point to ground breeders with open nests, were the egg-shells left lying in the nest; and this the birds know, and carry off every fragment of shell to a safe distance.

Many may think the habit trivial and of no vital importance to the bird. Yet it has been acquired in the struggle for existence, like any other beneficial factor, through sheer necessity—by death and extermination where it was not followed.

Many birds which breed in covered sites, as the Starling and Tits, remove the egg-shells from the nests, no doubt; but this they do for an entirely different reason, the comfort and cleanliness of their homes, just as they remove the excreta for this purpose. I once had the misfortune to break into a nest of the Great Tit, *Parus major*, deep down in a willow stump, containing eight young ones and four rotten eggs. The beautifully felted nest did not contain the smallest fragment of egg-shell, and was absolutely free from any trace of foecal matter, though it must have been an immense labour for the old birds to have kept their home in such a perfectly sanitary condition. But this habit has been brought about by necessity, and not through love of cleanliness—not till many generations of juvenile Tits had been carried off, perhaps, by avian forms of typhoid and other enteric fevers, and the race was growing smaller and smaller, did they hold their sanitary congress, and adopt the excellent laws which now govern the genus *Parus*.

ON THE NESTING HABITS OF THE RINGED PLOVER,  
*ÆGIALITIS HIATICULA.*

BY THE EDITOR.

My object in penning a few lines under this heading is not to furnish an exhaustive account of the behaviour of this species during the breeding season, but merely to direct attention to the protective coloration of its eggs when laid upon the bare pebbles of the beach, as shown in the accompanying illustration, which has been reproduced from a photograph taken by an enthusiastic naturalist, Mr. C. E. Salmon, of Reigate.

The Ringed Plover is one of the commonest of British shore birds, and next to the Dunlin (Purre, Stint, or Oxbird, as it is variously termed), it is perhaps the most numerous. The two species are frequently found in company, feeding and flying together, resting at high tide upon the great ridges of pebble beach that on some parts of the coast extend for miles and miles, or retiring further inland to the little pools about the salt-marshes, there to while away the time until the tide turns, when they again make their way to the coast-line, or to the great mud-flats intersected by creeks which are left exposed at low water about the mouths of the tidal rivers.

The Ringed Plover, or Ringed Dotterel, has as many provincial names as the Dunlin. On the coasts of Kent and Sussex it is variously known as "Shell-turner," "Wideawake," and "Stone-runner"; while in Norfolk it is known as "Stonehatch," from its observed habit of occasionally paving with small stones the hollow in which its eggs are usually deposited. This, however, is by no means a general practice. I have found a great many nests of this bird on the great pebble ridge at Pagham, Sussex, on Lydd Beach, Kent, and amongst the sand-dunes which fringe the coasts of Norfolk and Lancashire, and in many cases the eggs were deposited in mere depressions of the beach, or in hollows between the sand-hills, without any paving of small stones, or other materials. On the other hand, according to Prof. Newton, the nests are sometimes "deep holes apparently found by the birds themselves, and having at the bottom a considerable number of small stones, almost enough to fill half the hole, and neatly arranged. On this pavement, whence (as he says) they derive

their ordinary appellation ('stonehatch') the four eggs are laid, with their pointed ends invariably meeting in the centre of the nest."\*

As regards this habit of paving the nest, a remarkable instance of adaptation to altered circumstances has lately been brought to my notice by Mr. Allan Ellison, of Hillsborough, Co. Down. A small colony of Ringed Plovers (he writes) resorts annually in the breeding season to a rabbit-warren close to the sea at Portmarnock, Co. Dublin. This warren, which is strictly preserved,



Eggs of the Ringed Plover, *Agialitis hiaticula*. From a photograph by Mr. C. E. Salmon, of Reigate.

extends for some distance among the sand-hills, and also takes in a large extent of flat barren ground, slightly raised above the sea, and separated by intervening sand-hills from the shore. The soil is dry and sandy, covered with short crisp grass or moss, with here and there groups of stunted blackthorn or furze-bushes. All over this ground, and the open spots among the sand-hills, Lapwings breed in large numbers. Ringed Plovers nest numerously on the neighbouring shore, but a small colony always resorts to

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\* Stevenson's 'Birds of Norfolk,' vol. ii. p. 85.

the interior of the rabbit-warren, where the Lapwings breed. Their eggs are frequently laid in the small hollows scraped by the rabbits, and the dry pellets left by these animals serve to line the bottom of the nest instead of the usual pavement of white pebbles or broken shells. The eggs laid here are almost always much darker in colour than the ordinary type, approximating somewhat to the tint of the moss with which the ground is carpeted. In one nest a considerable quantity of moss and scraps of bent was placed under the eggs.

Not only do the eggs of this bird resemble the surroundings amidst which they are deposited, as may be seen from the accompanying illustration, but the colour of the bird itself is also protective. The grey tint of the dorsal plumage so closely resembles the shingle or sand upon which it loves to alight, that so long as it remains motionless it is almost invisible, and its melodious pipe, as it rises close at hand, is often the first intimation given of its presence.

So likewise with the downy young. When first hatched, though able to run, they usually seek safety by crouching motionless amongst the shingle, and so beautifully do their tints harmonize with the mottled greys and browns of the surrounding pebbles, as almost to defy detection. This is well exemplified in a case in the Bird Gallery of the British Museum, wherein a pair of old Ringed Plovers are mounted with three downy young ones upon a patch of shingle. At first glance only two of the young ones are conspicuously visible, by reason of their being placed in a standing position; a third, which is crouching amongst the pebbles, has to be actually looked for before its presence is detected. This is one of the most beautiful instances of protective resemblance to be met with amongst birds.

I may add that in a third photograph forwarded by Mr. Salmon, showing the nest of a Kentish Plover on shingle, the eggs are more readily detected by reason of the slight collection of drift wood and other materials which have been placed round them by the parent bird. This, however, is not an invariable habit, for, as in the case of certain Terns, sometimes we find a rough attempt at a nest, at other times the eggs are laid in a bare depression.

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THE BRITISH MARTEN.  
*MARTES SYLVATICA*, Nilsson.

By THE EDITOR.

(Continued from p. 409.)

And first, as to England. Commencing with the northernmost county, and working southwards, I find the following records amongst my notes :—

NORTHUMBERLAND. — Mr. Edward Charlton, of Reedsmouth, had a young Marten taken in that neighbourhood, as noticed by Wallis, Nat. Hist. & Antiq. Northumberland (vol. i. p. 412). Others, according to Messrs. Mennell and Perkins (Cat. Mamm. Northumb. in Tyneside Nat. Field Club, vol. vi. p. 125), have been met with at Slaley, near Hexham, and Unthank. In July, 1871, a Marten was killed on the North Tyne ('Naturalist,' 1886, p. 278); and in May, 1883, another was obtained near North Shields ('Naturalist,' 1886, p. 238). On May 23rd, 1883, one was taken alive in the grounds of Mr. Hedley, near Chirton, and passed into the possession of Mr. Yellowly, of South Shields, who reported its capture ('Zoologist,' 1883, p. 295). At first it was very wild and intractable, burying itself in the hay of its bed, and refusing to feed if looked at, but subsequently it became more reconciled to captivity.

CUMBERLAND. — In 1877, Mr. W. A. Durnford reported the Marten to be still plentiful in the wilder parts of Cumberland, and the immediately adjoining portions of Westmoreland and Lancashire, where it is hunted with hounds at all seasons. In the particular district where hunted, he estimated that from twelve to twenty were killed annually (Zool. 1877, p. 291). During a hunt in Wastdale, in the spring of 1878, an old "Mart," as it is locally termed, was observed to rush up the face of a precipice, with a young one about a quarter grown hanging on firmly to her tail, and both luckily escaped (Zool. 1878, p. 128). An interesting account of the Marten in Cumberland, derived from the huntsman of the Wastdale Head Hounds, is given (Zool. 1879, p. 171); and in the same volume (p. 264) two are noticed that were procured in April, 1879, one killed by the hounds on Middlefell, in Wastdale, the other trapped

near Dalegarth, in Eskdale. On April 2nd, 1880, Mr. C. A. Parker, of Gosforth, received an old female Marten which had been trapped by a gamekeeper at the head of Miterdale, a little valley running up towards Burnmoor, one of the loneliest and wildest parts of the district (Zool. 1880, p. 219). Early in November, 1881, a Marten was killed by Mr. Benson's foxhounds on Carlinot, one of the high fells between Loweswater and Ennerdale. He stated that he had not killed more than six during the previous seventeen years during which he had kept hounds. A fortnight later, however, a second was killed and eaten by his pack; and a third was seen near the same place (Zool. 1882, p. 108). About the middle of January, 1882, one was seen at the head of Borrowdale. And in October, 1887, I received one which had just been killed in Wastdale, and which I have had preserved. From this specimen a sketch was made by Mr. G. E. Lodge for the plate which appeared in the last number of 'The Zoologist.'

WESTMORELAND.—One was caught by a farmer in the Fairfield Valley, near Ambleside, 1877 (H. G. Tomlinson).

DURHAM.—About 1835, one was trapped in Stanley Wood; and on August 14th, 1849, a nest containing three young Martens was found in North Carr Wood, near Bishop Auckland (Zool. 1849, p. 2588). Mr. W. Backhouse had two specimens of the Marten which were killed some years prior to 1864 at St. John's, Weardale (Mennell & Perkins, Trans. Tyneside Nat. Field Club, vol. vi. p. 125). On May 31st, 1882, one was trapped at Hoppyland, about seven or eight miles west of Bishop Auckland (Nelson, Zool. 1882, p. 304).

YORKSHIRE.—In the winter of 1833, according to Mr. Hindson, a Marten was killed by W. Marshall, the gardener to Mr. John Foster, of Clapham. Others have been shot or trapped at Deepdale-in-Craven (where one shot in a rookery in the act of seizing a young rook in the nest); in Raydale, and in Kexby Woods, near York (Fothergill, 'Naturalist,' 1854, p. 145; 'The Field,' Oct. 1, 1881; and Zool. 1884, p. 174). One, killed at Lees Head, near Whitby, March, 1877, is preserved in the Whitby Museum; and the following year, Mr. T. Lister, of Barnsley, noted the occurrence of a Marten at Canon Hall Park, near that town. In Mid-west Yorkshire, one was killed at Buckden-in-Wharfedale in the winter of 1880 ('Naturalist,' 1891, p. 135). Messrs. Clarke &

Roebuck state that about the commencement of the present century the Marten was common in many districts of Yorkshire, and that during the past thirty years its occurrence has been quite exceptional and unlooked for (*Handbook Yorks. Vertebrata*, p. 6).

LANCASHIRE.—A dozen years ago the Marten was reported to be still hunted in the neighbourhood of Barrow-in-Furness, where it was estimated that from twelve to twenty of these animals were killed annually (*Durnford, Zool.* 1877, p. 291).

CHESHIRE.—Early in the "forties," a Marten was killed by a gamekeeper, named Robinson, in the service of the Marquis of Westminster, at Whitley, not far from the old Forest of Delamere; and about the same time, another which had been trapped at Hooton, in Wirral, was sent by Sir Thomas Stanley for preservation to Mr. Mather, of Liverpool (*Byerley, 'Fauna of Liverpool,'* p. 7). Mr. T. A. Coward, of Bowdon, has sent me an extract from a letter which appeared some years ago in the '*Manchester City News*,' written by Mr. James F. Robinson, who says:—"With all my enquiries, I can only hear of two Martens having been seen in Cheshire during the past fifty years. . . . My first observation of this animal was in seeing a captive specimen which had been caught in the Royalties, a wooded district behind the hills at Frodsham. It was kept in the house by old John Hulse (well known in Manchester), along with owls, thrushes, larks, linnets, and other birds. My next record was a memorable one. I was out one Saturday, together with several school companions, after the foxhounds on foot in the neighbourhood of Eddisbury Hill, in the Forest of Delamere, when all at once the hounds were at fault. This was accounted for by some animal having passed recently over the ground. We had not long to wait before it was started from beneath a clump of gorse-bushes, and ran speedily out of sight up the trees. From its light fawn colour it could not be a Polecat, and the huntsman and others declared it was a Pine Marten. . . ." Mr. Coward adds:—"I obtained a very fine head of the Pine Marten about five years ago from a huntsman who had been exercising the foxhounds by Buttermere, in Cumberland; but as the Lake District seems the last stronghold of this beautiful animal, you have probably plenty of notes of occurrence in that district."

SHROPSHIRE. — In 1838, two Martens were reported to have been killed at Stapleton, near Shrewsbury; and the late T. C.

Eyton, who announced the fact (*Mag. Zool. & Bot.* vol. ii. p. 540), added that the species was then to be found on Snowdon, and near Barmouth.

STAFFORDSHIRE.—In Garner's *Nat. Hist. of the Co. Stafford*, 1844, the Marten is noticed (p. 246) as having occurred in the woods near Dilhorne, Consall, in Needwood Forest, and frequenting rocky places in the limestone district. Mr. J. R. Masefield, writing thirty years later on the existing indigenous *Mammalia* of North Staffordshire, says:—"I fear this species must now be numbered amongst the extinct of this county, and I should not have included it here, had I not been assured, by one on whose word I can rely, that one was killed within his recollection, but many years ago, on the Staffordshire side of Dovedale."

WORCESTERSHIRE. — Malvern Chace was at one time a haunt of the Marten, but "the annual falls of wood disturbed him in his retreats, and he is now (1834) rarely to be found" (*Hastings, Nat. Hist. Worcestershire*, p. 59).

HEREFORDSHIRE. — About 1860, three Martens were taken at Whitfield, near St. Devereux. In 1861 one was caught by the keeper of Mr. H. Wood, of White House, Vowchurch, in Lowerhouse Wood, in the parish of St. Margaret's, where ten years previously another had been killed. In 1866 one was trapped at Kentchurch, near the little brook that runs into the river Monnow. Mr. Borrer, of Cowfold, Sussex, has one preserved in his collection, which was procured at Grosmount, near Hereford, 13th July, 1873. In March, 1878, one was trapped in a covert called Paradise Brake, close to the house at Pontrilas Court, Hereford. This specimen is now in the British Museum collection. The last heard of in this county was seen by Mr. Walter Steward on the river Dore in the spring of 1884. It was crossing the stream by means of a tree which had fallen across, and was carrying a rat in its mouth (*Zool.* 1886, p. 240).

LINCOLNSHIRE.—In March, 1843, an adult female Marten was trapped by a gamekeeper in the employ of Mr. Cooke, of Burgh House, near Spilsby, and was considered a great rarity, only one other having been met with during the previous three years (*Zool.* 1843, p. 345). On Nov. 5th, 1854, a Marten was trapped at Girsby, about seven miles from Louth. Some years previously one had been taken in Burwell Wood, about four miles from Louth. In 1858 one was caught in Well Wood, near Alford,

and was preserved for Mr. Hibbert, the innkeeper there (Cordeaux, Zool. 1880, p. 239). In 'The Zoologist' for 1866 (p. 242), Mr. Cordeaux reported the capture of a Marten for the second time in the parish of Riby. A third was shot in a wood of 500 acres, known as South Wood, on the estate of Mr. Thomas Drake, of Stainfield Hall, near Wragby, in the winter of 1871-72, as noticed by Rev. A. P. Morres (Zool. 1877, p. 251); and a fourth was trapped in a wood near Appleby Hall, Brigg, in Sept. 1879, as announced by Mr. Charles Winn (Zool. 1879, p. 420). The same year one was taken on the estate of Mr. Heneage, at Hainton, near Wragby (Cordeaux, Zool. 1880, p. 240). The Rev. W. W. Fowler, of Lincoln, in June, 1882, announced that he had seen a Pine Marten which had been trapped only a few weeks previously near Bardney (Zool. 1882, p. 230). This is believed to be the latest met with in Lincolnshire.

LEICESTERSHIRE.—According to Harley, the Marten in this county has been met with in the wood at Gopsall, and on Lord Howe's estate, on the western side of the county. There is an old specimen in the Leicester Museum, supposed to be from Wellsborough, and another at Bradgate House, reported to have been killed in that neighbourhood many years ago. Mr. R. Widdowson heard that one was killed at Stapleford, but did not see it (Zool. 1885, p. 165).

NORFOLK.—Messrs. Paget, in their 'Sketch of the Nat. Hist. of Yarmouth,' published in 1834, note the Marten as having been found formerly at Herringfleet and Toft; but then (1834) regarded as extremely rare. Mr. Gurney was informed by an old woodman that "Marten Cats" were found in Brooke Wood, near Norwich, during the latter part of the last century (Southwell, Zool. 1871, p. 2754). The late Rev. H. T. Frere, of Burston Rectory, Diss, reported (Zool. 1883, p. 75) that in 1843 a Marten was seen throughout the summer at Gissing, in this county. In 1864 an old female Marten was trapped on Kelling Heath by a keeper of Capt. Bird (Zool. 1882, p. 146); it was stuffed by Travis, of Saffron Walden. In a footnote to his edition of Lubbock's 'Fauna of Norfolk,' 1879 (p. 4), Mr. Southwell states that one was trapped in a wood near Heydon, in July, 1878, and was sent to Mr. T. E. Gunn, of Norwich, for preservation. This subsequently proved to have been taken at Hevingham, as recorded by Mr. F. Norgate (Zool. 1879, p. 171). Mr. Southwell is of opinion that

no specimen of the Marten has occurred in Norfolk in a truly wild state since the second decade of the present century, and in support of these isolated instances being "escapes," states that, some years ago, he was informed that an Undergraduate at Cambridge had had a number of live Martens sent to him from Ireland, several of which had contrived to escape, and were said to be living at large in his neighbourhood *in the south of England*. He considers that "the same thing may well have happened in Norfolk without its being suspected" (Trans. Norfolk Nat. Soc. vol. iii. (1884), p. 668). This I venture to doubt. There are so many keen naturalists and observant sportsmen in Norfolk that it would be very difficult for any escaped Martens to be at liberty without the fact becoming speedily known and talked about.

SUFFOLK.—Three were killed in this county in 1811 by a gamekeeper named Richard Sharnton, on an estate, not named, of four thousand acres (Daniel, 'Rural Sports,' Suppl. p. 585). This same keeper acknowledged to have killed in that year 22 Foxes, 31 Polecats, and 446 Stoats. This is the account referred to by Mr. Gurney (Trans. Norfolk Nat. Soc. vol. ii. p. 223) and by Mr. Southwell (Zool. 1877, p. 338), neither of whom allude to the fact that it had been printed by Daniel (*l. c.*) in 1813. They have set down the number of Martens killed at forty-three, instead of three! but Daniel, writing only two years after the event, was probably right.

CAMBRIDGESHIRE.—The skull of a Marten from Burwell Fen has been described by Mr. J. W. Clark (Proc. Zool. Soc. 1873, p. 790). The species has occurred at Madingly, and at Allington Hill; also at Caxton, but so long ago as 1844 (Rev. Leonard Jenyns, now Blomefield).

NORTHAMPTONSHIRE.—In the summer of 1840, the Rev. L. Jenyns received two young Martens from the neighbourhood of Milton Park, near Peterborough. They were of equal size, measuring 17 in. in length, exclusive of the tail, which was not quite 9 in. (Annals & Mag. Nat. Hist. vol. vii. (1841) p. 263). Lord Lilford writes that between forty and fifty years ago this animal was not rare in Northamptonshire, and he remembers an old gamekeeper, who had served his father and grandfather before him, talking much of the number of Martens that used to be found in the forest of Rockingham, near Brigstock, Corby, and Weldon. His lordship has a dim recollection of a Marten

having been found and "treed" by the Fitzwilliam Hounds in Barnwell Wold many years ago, and adds that the last he heard of as being killed in the county was found within the last twenty years in Yardley Chace. In Edward the Third's time (1369), Thomas Engaine held lands at Pighesle (now called Pitchley), in the county of Northampton, by the service of finding at his own proper cost certain dogs for the destruction of Wolves, Martens, Wild-cats, and other vermin within the counties of Northampton, Rutland, Oxford, Essex, and Buckingham (Rot. fin. 42 Edw. III. m. 13). He was doubtless a descendant of Sir John d'Engaine (d'Engayne or d'Engagne), who in Edward the First's time held land of the king at Pitchley of the annual value of £20, with appurtenances, by the service of hunting the Wolf for his pleasure in that county—"per servitium fugandi ad lupum pro voluntate sua in comitatu isto" (Plac. Coron. 3 Ed. I. rot. 20).

OXFORDSHIRE.—Mr. O. V. Aplin writes word that, many years ago, a Marten was shot in Bruern Wood, near Chipping Norton, and was thought to have strayed from Wychwood Forest. Another was reported to have occurred in the woods at Wroxton Abbey, but no direct evidence on the point has been received.

BUCKINGHAMSHIRE. — Formerly found in the extensive beech-woods (Lubbock, 'Fauna,' p. 5).

BERKSHIRE. — In the 'Report of the Wellington College Nat. Hist. Society for 1878,' mention is made of a Marten taken at Lord Downshire's, but no date or other particulars are given.

HERTFORDSHIRE.—A Marten, killed in Oxey Wood, Dec. 26th, 1872, is preserved at Bushey.

ESSEX.—Daniel, in his 'Rural Sports' (vol. i. p. 503), states that a farmer in the parish of Terling, in Essex, was famous for taming this animal, and had seldom less than two. He adds that some years since (1801) one used to run tame about the kitchen of the 'Bald-faced Stag,' on Epping Forest. About 1822 one was shot out of a Crow's nest in the Waltham Woods, near Chelmsford, by Mr. Thomas Gopsill, of Bromfield, near Chelmsford (H. M. Wallis, Zool. 1879, p. 264). On Feb. 11th, 1881, being at Colchester, Ambrose, the birdstuffer there, informed me that the last Marten he had seen in Essex was killed in the autumn of 1845 at Walton, near Colchester, by a keeper who sold it to him for half-a-crown. He skinned and preserved it, and disposed of it to Mr. Maberley, of Colchester, for ten shillings. On Nov. 27th,

1880, being in Epping Forest, near Loughton, I learnt from T. Luffman, one of the keepers, that in March or April, 1853, while he was acting as keeper to Mr. Maitland, he trapped a Marten in a covert near Loughton. After keeping the carcase for some days, till it was nearly spoilt, he took it to Epping, where it was purchased by the late Mr. Doubleday. At a sale of Natural History specimens at Stevens's Auction Rooms on the 10th Dec. 1889, a case of British Weasels (lot 52) contained a fine Marten, stated to have been killed at Chingford, Essex—date not mentioned. It belonged to a Mr. West, of High Street, Gravesend, for whom the case was bought in at a reserved price ('Essex Naturalist,' vol. iii. p. 271). Mr. E. A. Fitch, of Maldon, heard that the reason the capture was not published was that the woodman who set the trap was afraid of getting into trouble, and that they knew all about it at the 'Bald-faced Stag' ('Essex Naturalist,' vol. iv. p. 126; see also vol. iv. p. 185).

KENT.—Mr. W. Oxenden Hammond writes:—"As to the occurrence of the Marten in Kent, the only reported case I know of happened about sixty years ago, when my uncle, Sir Henry Oxenden, kept the East Kent Hounds. At that time it was said that they saw a Marten two or three times. It was always found at the same place in the 'Covet Wood,' a large woodland of 1000 acres or more, but was never brought to hand, and I am not sure that the animal was identified beyond doubt."

SURREY.—In May, 1834, a Marten was caught in Richmond Park by Thomas Neal, an under-keeper employed by J. Sawyer ('The Field,' March 10th, 1860). At a meeting of the Surrey Nat. Hist. Society, held at the Museum, Guildford, June 3rd, 1847, Mr. R. A. Austen, one of the Vice-Presidents, announced that a Marten had been recently caught in a wood near Black-heath, Albury, by Mr. Bray, of Shere (Zool. 1847, p. 1806).

SUSSEX.—About the year 1841, a Marten was caught in a rabbit-wire by one of the Duke of Norfolk's keepers in Clapham Wood, near Findon; and, about the same time, another and a finer one was killed at Wadhurst by Mr. Gill, of Applesham. On that gentleman's death and sale of his collection this specimen was purchased by Mr. R. D. Drewitt, of 53, Holland Park, Kensington, who furnished this information. A third, killed about the same time, was taken in a rabbit-wire in Michelgrove Woods, Arundel, and was for a long time in possession of one of the

Duke of Norfolk's gamekeepers. It turned up at a sale at Peppering, near Arundel, on Aug. 26th, 1891, but who became the purchaser I have not ascertained. The last Marten believed to have been seen in this county was killed by the Crawley and Horsham foxhounds at Holmbush, near Crawley, five and twenty years ago. It was stuffed by Leadbeater, of Brewer Street, London, for Mr. Borrer, of Cowfold, in whose collection I have seen it, with four others from Brecknockshire, Scotland, and Ireland. It was subsequently, however, destroyed by moth, and only the skull is now preserved.

HAMPSHIRE.—Mr. Edward Hart, of Christchurch, writes word that he is unable to cite any instance of the occurrence of the Pine Marten in his part of the country within the memory of the oldest inhabitant, although he has often questioned the old keepers and woodmen whom he has met. Nevertheless there is a stuffed specimen, as I learn from Mr. Kelsall, in the Alton Museum, which was killed at Hackwood, near Basingstoke, some five and forty years ago. Perhaps this is the specimen referred to by Mr. Selater (Zool. 1845, p. 1018) as having been killed near Odiham, which is only a few miles from Hackwood. Since the date referred to, but previous to 1857, a Marten was procured at Cadlands, in the New Forest, and, as I learn from Mr. Kelsall, is preserved in the possession of the Rev. R. E. Harrison, Rector of Droxford.

ISLE OF WIGHT.—Writing of the Mammalia met with in the Isle of Wight (Zool. 1844, p. 783), the Rev. C. A. Bury included the Marten, on the strength of one seen in the rocky wilderness at the Undercliff. It was closely approached by the Rev. J. F. Dawson, who was near enough to perceive "the deep yellow tinge of the throat." He adds that the track of a Marten was subsequently observed in the snow. See Venables' 'Guide to the Isle of Wight,' p. 411.

WILTSHIRE.—"Upon the disafforestations, the marterns were utterly destroyed in North Wilts. It is a pretty little beast, and of a deep chestnut colour, a kind of polecat, lesse than a fox; and the furre is much esteemed; not much inferior to sables. It is the richest furre of our nation. In Cranborne Chase and at Vernditch are some marterns still remaining." So wrote John Aubrey between 1656 and 1691 (Nat. Hist. Wilts, edited by John Britton, F.S.A., 4to, 1847, p. 59).

DORSETSHIRE.—Mr. Mansel Pleydell (Zool. 1879, p. 171) thought that the last Dorsetshire Marten was killed in the Chace Woods by the late Mr. Chafin's hounds about the year 1804; but in 1851 one was killed on the estate of Mr. Weld, of Lulworth, and about the same time another was taken on the property of Sir John Smith, near Dorchester ('Naturalist,' 1855, p. 176). Mr. C. W. Dale (Zool. 1879, p. 170) states that Martens have been killed at Halnest, at Stock, and at Blandford, in this county.

DEVONSHIRE.—Formerly found in the woods at Lydford and Buckland-in-the-Moor (Bellamy, Nat. Hist. S. Devon, p. 194); Stoke Wood, near Exeter (D'Urban); and on the Glenthorn Estate, on the borders of Dartmoor (Rev. M. A. Mathew). Mr. Edward Parfitt, in his 'Fauna of Devon' (Mammalia, p. 18), considered, in 1877, that the Marten was nearly extinct in Devon. He had heard of one killed near Ashburton in 1871, and two others at Answell Rock, Ashburton, which were stuffed by Messrs. Hele.

CORNWALL.—About 1843, a pack of foxhounds in drawing Bodethiel Coombe, in the Glynn Valley, near Bodmin, found and killed a Marten, and the late Mr. E. H. Rodd, who recorded this fact (Zool. 1878, p. 127), added that in March, 1878, a full-grown female Marten was captured in the neighbourhood of Delabole Quarries, in North Cornwall.

(To be continued.)

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## NOTES ON THE BIRDS OF DONEGAL.

BY HENRY CHICHESTER HART, B.A., F.L.S.

(Concluded from p. 424.)

WILD SWAN or WHOOPER, *Cygnus musicus*, Bechst.—Occasional winter visitant in hard weather. Sir R. Payne Gallwey mentions that Whoopers have been shot at Glen Lough and Mulroy.

BEWICK'S SWAN, *C. minor*, Keys. & Blasius.—Wild Swans, probably of this species, visit Ballyhernan Lake almost every winter, in Fanet. Lough Fern and many other lakes are visited, chiefly in hard winters, when the numbers are much larger. One was shot near Carrick by Mr. Musgrave in 1878 (A. B.). On

Dec. 28th, 1890, hearing that there were Wild Swans in Fanet, I visited several lakes. On Kinnylough there were twenty; they kept up a continual yelping noise; five rose and flew. At Rinboy Lake there was a much larger flock: I counted sixty on the water. This lake is about half-a-mile broad and three-quarters in length. The Swans kept in the middle, and were a beautiful spectacle, a brilliant sun shining on them. They kept up a continual yelping and sort of guttural whining. The notes of the darker cygnets, of which there were five or six, were distinct. I saw eighty-four Swans this day, and by all accounts there were never so many in Fanet any winter before: twenty to forty is the ordinary number. They remain till the end of February.

? GREYLAG GOOSE, *Anser ferus*, Gmelin.—Rarely occurs. In the winter of 1880–81 grey geese were numerous. At Greenfort Island, Carrablagh, a flock of about fifteen remained several days, when five were shot. This was an unexampled occurrence. Others were obtained at Kindrum, and eight went up Lough Swilly as far as Ramelton. The description I received agreed with the Greylag Goose, but the White-fronted Goose may have been mistaken for it.

BEAN GOOSE, *A. segetum*, Gmelin.—A regular winter visitor to the inland Donegal bogs in many places. This is the ordinary "wild goose" seen inland in winter, as the Brent Goose (miscalled the Bernicle) is the commonest tidal species.

WHITE-FRONTED GOOSE, *A. albifrons*, Gmelin.—Probably occurs every winter. A number visited south-western Donegal in the winter of 1879–80, and several were shot on the mountains inland (A. B.). One was shot on Rathlin O'Byrne Island, May 3rd, 1887 (Report on Migr. of Birds, 1889).

BERNICLE GOOSE, *A. leucopsis*, Bechst.—Said to visit Mulroy annually, where it is called "Bernacle" as well as the following much commoner species. Sir R. Payne Gallwey states that it regularly visits Aranmore Island in considerable numbers.

BRENT GOOSE, *A. bernicla*, Bechst.—Abundant winter visitor in Loughs Foyle and Swilly. I have seen them arrive on Sept. 12th and 14th, at the mud-flats on Inch Island, Lough Swilly—a favourite haunt. Generally leave in March. "Said to be frequent on Innisduff Island, near Killybegs, in winter" (A. B.).

SHELDRAKE, *Tadorna vulpanser*, Fleming.—Breeds, or did breed, a few years ago, at Ards. In 1881 a pair bred at Inch Island,

Lough Swilly. Formerly frequented Horn Head, and probably breeds at several other localities. These birds remain throughout the year in the places they frequent. "Breeds in the sand-hills between Ballyshanon and Bundoran" (A. B.).

\*WILD DUCK, *Anas boscas*, Linn.—Breeds in many places, the numbers in the county increasing much in winter.

WIGEON, *A. penelope*, Linn.—An abundant winter visitant, but has not as yet, I believe, been observed to breed in Donegal, though it most probably does so.

\*TEAL, *Querquedula crecca*, Linn.—Breeds in most of the mountain lakes, more numerous perhaps than even the Wild Duck. Great numbers arrive in autumn for the winter.

POCHARD, *Fuligula ferina*, Linn.—A winter visitant in small numbers to Mulroy and Sheephaven Bays, also Lough Swilly. Sir R. Payne Gallwey ('Fowler in Ireland,' p. 47) gives the proportion of Wigeon, Teal, Duck, Pochard, Scaup and Divers that Capt. Dover killed with his punt-gun in the years 1861, '62, and '63, in Mulroy and Sheephaven. I saw a few on Nov. 9th, near the lighthouse in Fanet.

SCAUP, *Fuligula marila*, Linn.—Winter visitor in some quantity. They are to be seen annually about the upper reaches of Lough Swilly, about Inch, and at Mulroy and Sheephaven. One was shot at Glenalla river, near Ray, on Lough Swilly, on July 1st, 1882: probably a wounded bird.

TUFTED DUCK, *F. cristata*, Leach.—The "White-sided Duck," as it is here called, is a regular winter visitant in small numbers to some of the lakes in Fanet. A local fowler, Patrick Campbell, has obtained these birds several times.

COMMON SCOTER, *Edemia nigra*, Linn.—Not a regular winter visitant to Lough Swilly. Very numerous in the winter of 1880-81. I have seen Scoters off the north coast of Fanet several winters in small numbers.

VELVET SCOTER, *Æ. fusca*, Linn.—In January, 1890, three of these birds remained with a small company (about thirty) of Pochards in Lough Swilly for several days. They were usually a quarter of a mile from shore, and I often watched them with a telescope. There was a very heavy swell in the Lough at the time and a desperate sea outside. The white mark on the wing was unmistakably observed.

\*RED-BREASTED MERGANSER, *Mergus serrator*, Linn.—Breeds

at Ards, on an island in Sheephaven, and at Lough Eske. About the first half of May to the third week there are generally several pairs about the shores of Lough Swilly at Carrablagh swimming in deep water; but they do not appear to breed.

GOOSANDER, *M. merganser*, Linn.—A rare winter visitor. "One was shot on Killybegs Bay by H. D. M. Barton in 1879 or 1880, and Archdeacon Cox, of Glenties, at various times preserved three specimens" (A. B.). The last were obtained on the Owenea river.

GREAT NORTHERN DIVER, *Colymbus glacialis*, Linn.—Frequents the mouth of Lough Swilly. I have reason to believe some of the birds remain along the coast throughout the year. The cry is unmistakable, and I heard it both in June and July from my house this year, though too far out for me to make out the birds. One of my men called my attention to it, saying there would be a storm when the "Hollan Hawk" cried like that. I have seen the Great Northern Diver here in May and in September. I do not suggest that they remain for the purpose of breeding. "Frequents Killybegs in winter" (A. B.).

\*RED-THROATED DIVER, *C. septentrionalis*, Linn.—Not unfrequent in Lough Swilly in winter, but less common near the shore than the last species. I have seen these Divers here in September. The eggs have recently been taken on Dunglow Lake, in the north-western corner of the county. "This bird has been known to breed in this locality for the past eight or ten years" (A. B.).

GREAT CRESTED GREBE, *Podiceps cristatus*, Linn.—I saw a specimen that was shot at Ray, Lough Swilly, in April, 1879. It does not appear to be common, but probably visits some of the lakes.

\*LITTLE GREBE, *P. minor*, Gmelin.—Breeds in many lakes and takes to the sea-loughs in winter.

RED-NECKED GREBE, *P. griseigena*, Bodd. — A specimen obtained on Inver Bay, by Mr. A. R. Wallace, is now in the National Museum.

\*PUFFIN, *Fratercula arctica*, Linn.—Breeds abundantly at Horn Head, where it arrives from early May (or perhaps earlier) to about the 12th August. Few eggs laid before the end of May (1881). Puffins breed on several other parts of the coast,—notably at Tormore, near Glen Head,—but in less

numbers. In 1879 a white Puffin was seen at Horn Head several times.

\***RAZORBILL**, *Alca torda*, Linn.—Breeds abundantly at Horn Head, and in lesser numbers elsewhere, as at Dunaff Head. Less common on this coast than the Guillemot.

**LITTLE AUK**, *A. alle*, Linn.—One was picked up dead in Donegal Bay in the winter of 1884 (A. B.), on Inver-strand.

\***GUILLEMOT**, *Uria troile*, Linn.—Breeds in many places round the coast, but most abundantly at Horn Head. Begins to lay first week in June generally—a little later than the Puffin or Razorbill. The ringed variety (formerly regarded as a species) has been observed breeding at Horn Head also. Mr. Brooke writes that this species, as well as the Puffin and Razorbill, breeds in great numbers about Tormore.

\***BLACK GUILLEMOT**, *U. grylle*, Linn.—Breeds in small numbers in several places, as at Dunaff Head, Melmore Head, Horn Head, Breaghy Head, &c. Sheephaven Bay is a favourite haunt of these birds. At Slieve League also they are frequent. Not common at Horn Head, and seems to be more solitary in its habits than others of the tribe. Mr. Brooke informs me that two or three pairs breed regularly at Innisduff Island.

\***CORMORANT**, *Graculus carbo*, Linn.—Very common on the Donegal coast. Breeds in most of the places mentioned for Guillemots, &c., but the largest assemblage I remember is at Breaghy Head. Here the eggs are easy of access, which is never the case with the following species. Young birds are mostly hatched and gone before the Guillemots begin to lay.

\***SHAG**, *G. cristatus*, Faber.—Less common than the last species. Much more numerous, however, at Horn Head, which is their chief breeding-place. Shags do not breed strictly in companies, like the last species, and always, if possible in the mouths of caves, the latter rarely or never choosing such a station.

**GANNET**, *Sula bassana*, Linn.—Not unfrequent, especially in stormy weather, in Lough Swilly, throughout the year, but not breeding in Donegal. "Often to be seen in Donegal Bay" (A. B.).

\***COMMON TERN**, *Sterna fluviatilis*, Naumann.—Common and breeds in many places, both inland and maritime, but especially on stony islets on low-lying lakes. Mr. Brooke mentions several islets in his neighbourhood, both inland and maritime, where these birds breed in great numbers.

\*ARCTIC TERN, *S. hirundo*, Linn.—Common along the coast, and breeds on islets off the north coast of Donegal in great numbers.

\*LESSER TERN, *S. minuta*, Linn.—Frequents the shores of Lough Swilly, and breeds, no doubt, in several places. I have not succeeded in finding their eggs here, though I was undoubtedly amongst them in two or three places.

\*BLACK-HEADED GULL, *Larus ridibundus*, Linn.—Breeds abundantly at Gartan Lough, Churchill; on an island in Kinnylough, Fanet; on an islet in a lake near Mount Charles; and elsewhere. "In great quantities on an island in Lough Eske" (A. B.).

KITTIWAKE, *L. tridactylus*, Linn.—Breeds abundantly, and very common at that season. Horn Head is its most notable station.

\*COMMON GULL, *L. canus*, Linn.—Frequent inland in winter; a few pairs breed on an island in Lough Fern.

\*HERRING GULL, *L. argentatus*, Gmel.—Very common all round the coast, breeding everywhere, but never in crowds, like the Kittiwake. At Horn Head they have their own colonies of thirty to fifty pairs, where no other birds interfere. Often they breed along the coast, a pair or two at a place.

ICELAND GULL, *L. leucopterus*, Faber.—One of these graceful gulls flew up Lough Swilly past my house in a heavy gale from W.N.W. on Jan. 20th, in the present year. He passed close to me, and the flight was very powerful. The long tern-like wings and the gleaming white colour, coupled with the size, intermediate between Kittiwake and Herring Gull, rendered it unmistakable. I was, moreover, familiar with this bird in Greenland.

\*GREATER BLACK-BACKED GULL, *L. marinus*, Linn.—A few of these birds are generally to be seen in Lough Swilly, especially when fish are in. Breeds at Horn Head, and I have seen these birds at Slieve League and Dunaff Head, and in other places along the coast in the breeding-season. "I was told by Mr. J. Young that a pair bred on Lough Eske [inland lake] one year, and I have seen a pair at Innisduff island [maritime] in the breeding season" (A. B.). With reference to the freshwater breeding-place, I may mention here that about thirty years ago Great Black-backed Gulls used to breed on islands in Lough Erne.

\*LESSER BLACK-BACKED GULL, *L. fuscus*, Linn.—Breeds at Horn Head and Slieve League. Not so frequently seen on Lough Swilly as the last species, but also breeds, I think, at Dunaff Head.

COMMON OR GREAT SKUA, *Lestris catarractes*, Linn.—A pair of these birds appeared in Lough Swilly in October, 1890, when there was great fishing among the gulls. They broke up the "togher" in approved fashion, and I watched their magnificent evolutions amongst the gulls (chiefly Kittiwakes) with a telescope for some time. I have seen them once or twice before, and a Ramelton fowler (J. Griffin) saw one in the winter of 1880-81. I have watched Eagles in the air many a time, and Falcons and Merlins are familiar birds, but I know no performance on the wing at all to compare with that of a couple of these ferocious tyrants amongst a crowd of Kittiwakes. They inspire abject terror amongst them at once, and all attempt at fishing is fairly abandoned. The light-keeper at Fanet has seen Skuas ("Skaws") occasionally. He says they lie outside on the open sea, but come near shore sometimes after fishing Gulls. I have learned that one of these birds was obtained on an inland lough near Dawcross Bay, Ardara, by Major Johnson in 1890.

POMATORHINE SKUA, *Stercorarius pomatorhinus*, Temminck.—Mr. Holt, the naturalist attached to the Fishery Commissioners' Survey steamer under the command of the Rev. W. Green, obtained a specimen of this bird, which he kindly showed me, in Donegal Bay, in May, 1891.

RICHARDSON'S SKUA, *S. crepidatus*, Gmelin.—One of these birds was also obtained by Mr. Holt and shown to me. It was shot in Sheephaven Bay, 1891. Other examples of both species were observed.

BUFFON'S SKUA, *S. parasiticus*, Linn.—Mr. Holt saw what he believed to be one of these birds in Sheephaven, May, 1891.

\*MANX SHEARWATER, *Puffinus anglorum*, Temminck.—Seen in summer about Tory Island. Breeds at Aranmore. One killed itself against the lighthouse at Fanet, in April, 1891.

GREAT SHEARWATER, *P. major*, Faber.—I saw three of these birds flying out of the mouth of Lough Swilly on the 19th May, 1890. Their flight, which I am well acquainted with, is unmistakable. A gale was blowing at the time, and the manner in which they followed each other, like automata, dipping into

the trough of the heavy sea with their peculiar, graceful flight, was a pleasure to observe. I saw them first at a quarter of a mile or less, but followed them with my telescope for a couple of miles.

FULMAR, *Fulmarus glacialis*, Linn.—The Rev. W. Green, while in charge of the steamer investigating the Fisheries off the Coast of Ireland (1890—91), met with Fulmars in Donegal Bay, within 10 miles of land, in 1890: and others about 20 miles from land in 1891.

\*STORM PETREL, *Procellaria pelagica*, Leach.—Breeds at Tory Island and at Rathlin O'Byrne's Island, off Slieve League. Seldom seen from the shore. Large numbers breed on Tory Island, or at least visit the island during the season. I received eggs from there thirty years ago.

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## NOTES AND QUERIES.

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### MAMMALIA.

Hybernation of Squirrels.—Referring to the notes which have already appeared (pp. 61, 100, 151, &c.), "whether Squirrels are torpid in winter," permit me to say that, during many winters passed in the backwoods of North America, I have seen Squirrels frisking among the trees in the coldest weather. On bright sunny days especially they delight in chasing each other from tree to tree among the evergreens, and cover the snow with their tracks. The young are born early in the spring; here I speak of the ordinary Red Squirrel. The "Chipmunks," or little striped Ground Squirrels, certainly do not hibernate; for in the autumn they lay up a store of provision of grains, nuts, &c., for winter, and on fine days may be seen sunning themselves. I have on several occasions come across their hoards, and once saw two large bucketsful of shelled buckwheat taken from the hollow of an old birch tree that the woodmen had chopped down on the edge of a clearing which had been cropped the previous summer with that grain. The instinct of the animal had apparently taught it that in the shelled state the grain would not germinate.—C. FITZGERALD.

### BIRDS.

On the Colours of the Adult Female Golden Oriole.—Although I have spent many pleasant hours with the Golden Oriole in the Rhineland and in France, studying its nesting habits, listening to the rich flute-like

song and cat-like calls of the male Orioles in their brilliant livery,—watching, too, the first essays at flight of the young bird that has newly left the hammock-like nest,—I never had the pleasure of meeting with this species on migration until April of the present year. On the 20th of that month, Messrs. Johnson, A. C. Chapman, and myself happened to walk up to the head of Roncevaux Pass from the Spanish side, and saw several Golden Orioles resting on passage. First, a male and female flew across a beech-clad hollow on the hill-side, and then several brilliant males followed in company. The first two birds had perhaps already paired. With regard to the reviewer's remarks (p. 437) on the plumage of the Golden Oriole, I do not think that the "covering" phrase, to which exception is taken, can fairly be construed to bear the interpretation put upon it. The female Golden Oriole is "a similar but duller bird than the male," similar in flight and general appearance, though much more soberly attired. It is not easy to study the female Orioles, because they frequent the higher branches of forest trees, and are shy and retiring. But that the female of this Oriole gradually progresses towards the yellow dress of the male, I have no doubt at all. It was long ago so stated by Hoy, and I am not aware that his statement, quoted in the 4th edition of 'Yarrell,' has been challenged until the present time. Even the plumage of the young resembles distantly that of the adult, *i. e.*, yellow strongly predominates. I am not sure, however, that the reviewer and I have the same colour sense. It is possible that what appears to him green, appears to me to be yellow. Recently a lady casually informed me that the breast of the Great Titmouse is green, not yellow. My reviewer may take the same view. At all events, though the female of *Oriolus galbula* is usually "a duller bird" than the male, she is similar to her mate in everything but brilliancy of tint. I do not think that the female of this Oriole would be at all exposed to danger, when sitting, by bright colours. It is not easy to see even a male Golden Oriole in the top of a big oak or elm in the breeding season. The birds crouch close to the boughs if alarmed, and neither they nor their nests are easy to distinguish among the fully-expanded leaves. — H. A. MACPHERSON (Carlisle).

**Inland Occurrences of the Manx Shearwater.**—I have met with four occurrences of this species inland during the autumn, namely, the one recorded in the current number of 'The Zoologist,' p. 428, near Retford, in the first week of September; another killed on the first of the same month at Wooton, near Ulceby, by a reaping machine, and now in the collection of Mr. J. Topham; another at Grainsby, also in Lincolnshire, which I have; and a fourth in Holderness. I have not been able to ascertain the dates of the two latter with any degree of accuracy, but in the case of the two former (the 1st September and first week in September), it is by no means improbable that these may have been driven quite across the country from some

western locality by the tremendous gales from the S.W. on August 26th, and again on September 1st from the W.—JOHN CORDEAUX (Eaton Hall, Retford).

**The Manx Shearwater Inland.**—Ornithologists, generally speaking, look upon the presence of the Manx Shearwater inland as due to stress of weather. From its regular appearance in Notts, however, during the months of September, October, and November, I have come to the conclusion that we must look to a moderate amount of overland migration as the cause; the birds apparently travelling by the usual route *via* the Trent Valley and across the intervening counties to the Bristol Channel. As the Manx Shearwater is a maritime bird, we should naturally expect most of the inland records to refer to those counties bordering the sea. Had all specimens been recorded that have been captured in Nottinghamshire, I think we should find that not a year has passed without one specimen having occurred. For the last five or six years I can say from my own observations that not a year has passed without one being captured, in some years two, and once as many as three having come under my notice. The winds at the time of these occurrences, when noted, have usually been strong, and always from the west or south-west. If we take the last five or six years as average years, we shall see at once that the records for Notts greatly exceed those for Norfolk and Suffolk, quoted by Colonel Feilden, which probably extend over a long period. There is no doubt that the trend of the Norfolk coast and the position of the Wash may lead the Manx Shearwater astray, but, considering the scarcity of this bird in the adjacent sea, I am more inclined to think that the Norfolk birds are stragglers from the overland line of migration, driven out of their course by the prevailing winds. For the intervening counties lying in the route, I have few records to refer to; but for Leicestershire six specimens are recorded, and a seventh was captured during September of the present year. For Oxfordshire, which, however, is rather out of the regular course, half a dozen specimens are noted of comparatively recent occurrence, and chiefly during the months of September, October, and November. Immediately preceding Col. Feilden's note (p. 428) is another record of the occurrence of this bird in Nottinghamshire.—F. B. WHITLOCK (Beeston, Notts).

**Fork-tailed Petrels in North of Ireland.**—The number of Fork-tailed Petrels which have recently been met with in different parts of Ireland has been very remarkable. On the 27th September two were picked up dead, two were shot, and three others seen near the Glenavy shore of Lough Neagh. On the same day one was observed on Lough Conn, Co. Mayo, and the following morning one was picked up dead, and another stoned to death by boys at the same place. On the 28th one was found alive in one of the suburbs of Belfast, and one dead near Buncrana, Co. Donegal. One

was found on the outskirts of a wood near Ramelton, Co. Donegal, on the 29th, and on the 30th a dying one was picked up near Lough Neagh, and another found at Crumlin, Co. Antrim. By the 1st October they had crossed Ireland, one being seen at Donaghadee, Co. Down, and on the same day one was observed and another picked up dead near Crumlin. One was seen on Lough Neagh on 6th October, and on the 7th a correspondent wrote that "dozens were lying about Moy," Co. Tyrone. On the 9th, 10th, and 11th individuals were observed in different parts of the parish of Glencolumbkille, Co. Donegal; and at Inver, in the same county, about the middle of October, one was shot, one picked up dead, and two were seen. I have read reports of other occurrences of this bird in different papers, but all those above mentioned have come under my own notice. It is rather remarkable that I only heard of one Storm Petrel, which was sent in from Toome, Co. Antrim.—ROBERT PATTERSON (1, Windsor Park Terrace, Belfast).

**The Fork-tailed Petrel in Ireland.**—I send a list of the Fork-tailed Petrels that have come under my observation during the late visitation, which seems to have been pretty general all over Ireland. I have received twenty-seven specimens for preservation from the following localities:—Sept. 28th.—One, Mullingar, Co. Westmeath; one, Thurles, Co. Tipperary; two, Galway; four, Athlone, Co. Westmeath. 29th.—Two, Nenagh, Co. Tipperary; one, Cashel, ditto; one, Athenry, Co. Galway; one, Dublin city. 30th.—One, Londonderry; one, Waterford town; one, Eyrecourt, Co. Galway. Oct. 2nd.—One, Ballyjamesduff, Co. Cavan; one, Hollymount, Co. Mayo; one, Mountrath, Queen's Co. 3rd.—Two, Galway; one, Mullingar, Co. Westmeath. 5th.—One, Loughrea, Co. Galway; one, Woodlawn, ditto; one, Carrick-on-Shaunon, Co. Leitrim. 6th.—One, Tralee, Co. Kerry. 9th.—One, Kilcock, Co. Kildare. The birds were in every instance in a very emaciated condition, and all the specimens were just half through their moult—not a perfect-plumaged bird among them. A peculiarity (which I have noticed before in the species) was that six out of the twenty-seven had the tarsus mutilated, one with the leg completely gone. It would be interesting to discover the cause of this, as I have noticed the same thing in the Manx Shearwater, though probably rabbit-traps in the breeding season might account for it in that species. Mr. Frank Neall, writing to Mr. Barrington from Limerick, remarked:—"It may interest you to know, that quite a large number of Storm Petrels were to be seen flying about the Shaunon here yesterday (Sept. 27th), right up opposite the town, and, in their eagerness to pick up food, coming within five or six yards of spectators who stood to watch them. A strong westerly wind was blowing all day, but on the whole the day was a fine one without rain." Another correspondent, writing to Dr. Scharff, enclosing a specimen from Moy, Co. Tyrone, states that a number of these birds were found

lying about the fields dead. So far as my observations went, strong south-westerly winds prevailed all the last week of September.—EDWARD WILLIAMS (2, Dame Street, Dublin).

**White-tailed Eagle at Scarborough.**—On Nov. 7th a nice specimen of the White-tailed Eagle was shot near Scarborough by Mr. William Wright. Its captor states that, while lying in wait for wildfowl at Scalby Ness, he perceived a large bird, which he took to be a Heron, slowly flying across the water, followed and harassed in its flight by a number of Hooded Crows. On reaching the shore it immediately alighted on the cliff, where Mr. Wright was fortunate enough to get within twenty-five yards, bringing it down with a charge of No. 4 shot. The bird, being only wounded, made a powerful resistance, and its captor had no little difficulty in securing it. On examination it proved to be an immature bird in good condition, measuring  $34\frac{1}{2}$  in. from beak to tail, and over 7 ft. in expanse of wing. Mr. Wright did not appear quite clear as to whether there were two of the birds or not; but the matter was settled beyond question later in the day by the appearance of another Eagle, presumably of the same species. It was again seen on the 8th, and on the 9th, being on the north shore early in the morning. I was fortunate enough to see it. It was slowly flying in a southerly direction, about 250 yards out to sea, and finally disappeared over the cliffs. Judging from the size, which appeared somewhat smaller than the one secured, it was probably the male bird. The one shot is now being preserved for the local museum.—WM. J. CLARKE (44, Huntriss Row, Scarborough).

**Capture of a Spotted Eagle near Colchester.**—I have just seen (Nov. 9th) a live specimen of the Spotted Eagle, *Aquila navia*, a rare straggler to the British Islands, which was captured on Oct. 29th, 1891, at Elmstead, near Colchester. It appears that on the day mentioned a farm labourer saw a strange bird, evidently in an exhausted condition, alight in the field in which he was working. On going after it, it rose again, and flew about a hundred yards. He soon came up to it, and, after some little difficulty, from its pugnacity, captured it alive and uninjured, and in a few days sold it to a gipsy, who in turn disposed of it to Mr. Pettitt, our local taxidermist. Its plumage appears to indicate good health, and its appetite certainly favours that idea, and, if any injury led to its capture, all marks of it have quite disappeared. From its size and markings it corresponds with Mr. Howard Saunders's description of the small northern race. Mr. Pettitt, who is taking great care of the bird, is willing to dispose of it if a purchaser can be found.—HENRY LAVER (Colchester).

**Unusual Nesting of the Chiffchaff.**—On the 10th August last, in the woods of Ballyraine, Arklow, I found a Chiffchaff's nest, from which the young had some time flown. It was built in the side of a bramble thicket, at the edge of a path, and thickly shaded above by trees. It was raised

fully three feet from the ground, and was well concealed by the leaves of the bramble. I have never seen a nest of this bird actually upon the ground, but very rarely more than a foot or so above it, and generally surrounded by dry leaves, grass, fern, or some tangle of the kind; but this nest more resembled in its situation that of a Chaffinch. — ALLAN ELLISON (Hillsborough, Co. Down).

**The Hawfinch in Middlesex.**—Having read Mr. Aplin's article on the "Immigration of Hawfinches" (p. 367), it occurs to me that the following note may be of interest to your readers. On Dec. 8th, 1889, while watching some birds feeding on crumbs and fruit in a garden here, I discovered two Hawfinches. They were very shy, and kept under the shelter of a rhododendron-bush, apart from the Sparrows, Chaffinches, and other birds. I saw them only on that day, though I looked for them on several subsequent occasions.—ALFRED SICH (Burlington Lane, Chiswick).

**Squacco Heron in Wales.**—About sixteen years ago a Squacco Heron, *Ardea ralloides*, was shot at Glansevern, Gathruyl, Montgomeryshire, at some ornamental water close to the house. It is a full-plumaged bird, and has been nicely set up; it is in the possession of Mr. A. C. Humphreys-Owen at Glansevern.—CHARLES F. ARCHIBALD (Rusland Hall, Ulverston).

**Red-breasted Flycatcher at Scarborough.**—The Red-breasted Flycatcher, *Muscicapa parva*, shot at Scarborough on Oct. 23rd, 1889, and mentioned by Mr. Cordeaux (p. 363) is not in my collection, as he supposes, but is among the recent additions to Sir Vauncey Crewe's collection.—J. H. GURNEY (Keswich Hall, Norwich).

**Notes from Christchurch, Hants.**—I have added one new species to my collection, viz., a Lapland Bunting, which I slightly wounded on March 13th last, just after that great snow-storm; it lived some months, but unfortunately died. I have it now preserved in my collection, being the only Hants specimen that I know about. A Spoonbill was in the harbour during May. Wildfowl came in rather early; Wigeon by Sept. 25th. On the 29th five Avocets were in the harbour, and an Osprey for several days; this bird was shot at, but not killed. On Oct. 8th saw first Phalarope. Oct. 12th Fieldfares arrived. After this came that extraordinary visit of Phalaropes from the 16th to 22nd; there were simply hundreds. The wind then went N.E., and they soon made on south; the last I saw was on the 28th. On that morning I shot the first Brent Goose for the season. I also saw the same or another Osprey; it was seen again next day. It has not been killed up to the present, I am glad to say. On Friday night last (6th) a female Night Heron was shot by a river-keeper on the Stour; the man brought it to me just after, but, having them so well represented in my collection, I did not require another. I think his master, Mr. Wilkes,

has sent it to be stuffed. A Mr. Coles, of Keyhaven, told me he had killed a Sabine's Gull on Oct. 21st last; it is at the stuffer's now, but I hope to see it soon, and trust it will prove to be correctly identified, not having any note of this occurring before in Hants. I ought to mention that during the dates on which the Phalaropes were so plentiful a large number of Buffon's Skuas were here; I saw five in view at once. Curiously, they were mostly adult birds, but the date was just too late for them to have the long tail-feathers. I managed to shoot two that had not moulted them, which I wanted to place with one adult I shot in 1879. Immature birds I have often shot.—EDWARD HART (Christchurch, Hants).

**Wildfowl on Rainworth Water, Notts.**—When walking round the lake here, in August last, I was very much surprised to see a Pochard, never before having seen one here during the summer, though this water is just the place one would expect to see one. I was more astonished to see a male in full winter plumage; his head was as red and his back as grey as they might have been on Christmas Day. The other wildfowl on the water were forty-two Tufted Ducks, nine Shovellers, six Teal, five common Wild Ducks, one Scaup (very early), and one Great Crested Grebe; besides very many Coots and Waterhens. I may add that yesterday (Nov. 9th), there were ninety-five common Wild Ducks here.—J. WHITAKER (Rainworth, Mansfield, Notts).

**Notes from West Sussex.**—I have to report to you the recent occurrence of three Fork-tailed Petrels. One fell in Midhurst, Oct. 16th, and was fed with morsels of cod-fish, but died next day; weight barely three-quarters of an ounce. The second was found near your old haunt, Elsted Down, on Oct. 20th. The third was picked up on Oct. 23rd at Pallingham, Wisborough Green, by a shepherd of Mr. Percy Neale, and forwarded to me; I have sent it to Pratt's, Brighton, for preservation. These birds must have gone till they dropped. Mr. Arnold reports from Emsworth, Oct. 20th, a good specimen of the Pomatorhine Skua (*Stercorarius pomatorhinus*). On Oct. 24th another Skua, killed at Selsey, was shown to Mr. Arnold in Chichester, but he had not time to determine whether it was one of the same species, or Richardson's Skua. I tried to see this bird, but failed. A great many Grey Phalaropes have occurred in different localities, as at Thorney, Havant, Eastney Barracks, Portsmouth, Emsworth, Midhurst Mill, and Lynchmere; the last two I saw. On October 22nd, Mr. Arnold reported another example of the Pomatorhine Skua, brought to him from Emsworth. The curator of the Chichester Museum, Mr. Anderson, reported to me a month ago that Scoters had bred successfully near Chichester this year.—H. D. GORDON (Harting Vicarage, Petersfield).

[This we doubt; most likely the birds referred to were Tufted Ducks. Further details are desirable.—ED.]

**Spotted Crake at Scarborough.**—A nice specimen of the Spotted Crake was obtained at Scarborough during the early part of October. It was killed by flying against the telegraph-wires, and proved to be in fully mature plumage. This is the second example of this species which has occurred recently in this district.—W. J. CLARKE (44, Huntriss Row, Scarborough).

## SCIENTIFIC SOCIETIES.

### LINNEAN SOCIETY OF LONDON.

*November 5, 1891.*—Prof. STEWART, President, in the chair.

Mr. W. L. Brown was elected, and Prof. W. F. Weldon was admitted a Fellow of the Society.

On behalf of a number of subscribers, Mr. Carruthers presented to the Society a half-length portrait in oils of Sir John Lubbock, Bart., M.P., P.C., and F.R.S., a former President, painted by Mr. Leslie Ward; and the remarks which he made on the services rendered to biological science by Sir John Lubbock drew from the latter a graceful acknowledgment of the honour conferred upon him.

Amongst the exhibitions which followed, Mr. E. M. Holmes showed some new Marine Algæ from the Ayrshire coast; Mr. J. G. Grenfell showed some Diatoms with pseudopodia, illustrating his remarks with diagrams, upon which an interesting discussion followed; the President exhibited and made some observations on a tooth of the Walrus, which illustrated in a curious manner the periods of growth; Mr. R. V. Sherring called attention to a large series of framed photographs which had been taken under his direction in Grenada, and illustrated the general character of the West Indian Flora, as well as the physical features of that particular island.

Mr. J. E. Harting exhibited a specimen of Wilson's Petrel, which had been picked up in an exhausted state in the Co. Down on the 2nd October last, and had been forwarded for inspection by Mr. R. Patterson, of Belfast. Mr. Harting gave some account of the species, and remarked upon the unusual number of Petrels, Shearwaters, Skuas, and other marine birds which had been driven inland to a considerable distance during the recent gales.

A paper was then read by the Rev. Prof. Henslow, M.A., entitled "A Theory of Heredity based on Forces instead of any special form of Matter." The author maintained that no special form of matter (as is generally supposed) other than protoplasm is required, the latest discoveries of the organised structure of protoplasm militating against the idea of any other special form of matter. Taking illustrations from the Animal and

Vegetable Kingdoms, he enquired why two varieties of chickens, fed from the first day to full growth, were different? It seemed to him more probable that the results were due to different arrangements of the same kinds of molecules rather than to different kinds of "germ-plasms." *Ranunculus heterophyllus*, he pointed out, produced a "land-form" and a "water-form," according to its environment; it therefore exhibited both "heredity" and "acquired characters." As the materials of its structure were the same in both cases, the different results, he considered, must be due to different arrangements of its molecules, and must be effected by Forces. The sudden appearance of stomata on the "land form" illustrated a case of forces normally "potential" while the leaf is submerged, becoming "actual" when the leaf developed in air. After some further deductions, Prof. Henslow concluded that protoplasm and the forces bound up with it were perfectly able to do all the work of transmitting parental characters, as well as to acquire new characters, which in turn might become hereditary as well.

#### ZOOLOGICAL SOCIETY OF LONDON.

November 3, 1891.—Professor W. H. FLOWER, C.B., LL.D., F.R.S., President, in the chair.

The Secretary read a report on the additions that had been made to the Society's Menagerie during the months of June, July, August, and September, 1891, and called attention to certain interesting accessions which had been received during that period.

The following objects were exhibited:—(1) on behalf of Mr. F. E. Blauw, a stuffed specimen of a young Wondrous Grass Finch, *Poephila mirabilis*, bred in captivity at his house in Holland; (2) on behalf of Prof. E. C. Stirling, a water-colour drawing of the new Australian mammal, *Notoryctes typhlops*; (3) by Mr. G. A. Boulenger, an Iguana with the tail reproduced; (4) by Mr. R. Gordon Wickham, a very fine pair of horns of the Gemsbok, *Oryx gazella*, from Port Elizabeth, South Africa; and (5) by Dr. Edward Hamilton, a photograph of an example of the Siberian Crane, *Grus leucogeranus*, shot on the island of Barra, Outer Hebrides, in August last. [This proved to be an escaped bird. See 'The Field,' Nov. 14th.]

Mr. R. Lydekker gave a description of some Pleistocene bird-remains from the Sardinian and Corsican Islands. These belonged mostly to recent forms, but to genera and species which in several instances had not been found fossil. They showed rather more of an African character than the present Avifauna of these islands. He also read some notes on the remains of a large Stork from the Allier Miocene. These remains were referred to the genus—closely allied to *Ciconia*—lately named *Pelargopsis*, but which (that term being preoccupied) it was now proposed to rename *Pelargoides*.

He also exhibited and made remarks on the leg-bones of an extinct Dinornithine bird from New Zealand, upon which he proposed to base a new species allied to *Pachyornis elephantopus* (Owen), and to call it, after the owner of the specimen, *Pachyornis rothschildi*.

Dr. A. Günther read a description of a remarkable new fish from Mauritius, belonging to the genus *Scorpæna*, which he proposed to call *Scorpæna frondosa*.

A communication was read from Mr. Roland Trimen, containing an account of the occurrence of a specimen of the scarce fish, *Lophotes cepedianus*, Giorna, at the Cape of Good Hope.

A communication was read from the Hon. L. W. Rothschild, giving a description of a little-known species of *Papilio* from the island of Lifu, Loyalty Group.

Mr. R. J. Lechmere Guppy read some remarks on a fine specimen of *Pleurotomario* from the island of Tobago.

A communication was read from Mr. L. Péringuey, giving an account of a series of beetles collected in Tropical S.W. Africa by Mr. A. W. Eriksson.—P. L. SCLATER, *Secretary*.

#### ENTOMOLOGICAL SOCIETY OF LONDON.

Nov. 4, 1891.—Dr. DAVID SHARP, M.A., F.R.S., Vice-President, in the chair.

Major John Nathaniel Still, of Seaton, Devon, and the Junior United Service Club, Charles Street, St. James's, S.W., was elected a Fellow of the Society.

Mr. W. F. Kirby exhibited a series of a very dark-coloured form of *Apis* reared by Mr. John Hewett, of Sheffield, from bees imported from Tunis, which he proposed to call "Punic Bees." They were larger than the black *Apis unicolor*, Latr., of Mauritius and Bourbon, and were almost entirely black, except in the legs, which were of a more or less reddish colour.

Mr. C. G. Barrett exhibited five melanic specimens of *Aplecta nebulosa*, reared by Mr. Collins, of Warrington, from larvæ collected in Delamere Forest, Cheshire, and described by him, in the 'Proceedings of the Lancashire and Cheshire Natural History Society,' as *A. nebulosa*, var. *Robsoni*, in honour of Mr. John E. Robson, of Hartlepool. Mr. Barrett also exhibited a beautiful variety of *Argynnis aglaia*, taken in Norfolk by Dr. F. D. Wheeler, and two specimens (male and female) of *Lycæna argiades*, taken in August, 1885, on Bloxworth Heath, Dorsetshire, by Mr. C. O. Pickard-Cambridge and Mr. A. Pickard-Cambridge respectively.

Mr. H. St. John Donisthorpe exhibited a collection of Coleoptera, comprising about thirty-six species, made in a London granary in 1890 and

1891. The genera represented included *Sphodrus*, *Pristonychus*, *Calathus*, *Quedius*, *Creophilus*, *Omalium*, *Trogosita*, *Silvanus*, *Lathridius*, *Dermestes*, *Anthrenus*, *Corynetes*, *Ptinus*, *Niptus*, *Anobium*, *Blaps*, *Tenebrio*, *Calandra*, *Bruchus*, &c.

Mr. A. B. Farn exhibited a series of specimens of *Eubolia lineolata*, bred from eggs laid by a specimen taken at Yarmouth. The series included several remarkable and beautiful varieties, and the size of the specimens was much above the average.

The Rev. Dr. Walker exhibited specimens of *Argynnis ino*, *A. pales*, and *A. frigga*, from Norway.

Mr. B. A. Bower exhibited, for Mr. J. Gardner, specimens of *Nephopteryx splendidella*, H.-S., *Botys lupulinalis*, Clk., and *Bryotropha obscurella*, Hein., taken at Hartlepool last June and August.

Mr. R. Adkin exhibited two very dark specimens of *Peronea cristana*, from the New Forest.

Colonel C. Swinhoe exhibited, and remarked on, types of genera and species of moths belonging to the *Tineina*, all of which had been described by the late Francis Walker, and placed by him amongst the *Lithosidæ*.


Mr. H. Goss exhibited specimens of *Callimorpha hera*, taken in August last by Major-General Carden in South Devon, and observed that the species appeared to be getting commoner in this country, as Gen. Carden had caught seventeen specimens in five days. Mr. Goss said that the object of the exhibition was to ascertain the opinion of the meeting as to the manner in which this species had been introduced into this country. A long discussion on this subject and on the geographical distribution of the species ensued, in which Mr. G. T. Baker, Mr. Stevens, Mr. Barrett, Colonel Swinhoe, Mr. McLachlan, Mr. Verrall, Capt. Elwes, Mr. Fenn, Mr. Jacoby and others took part.

Mr. C. J. Gahan contributed a paper entitled "On South American species of *Diabrotica*: an Appendix to Part II."

Mr. McLachlan contributed a paper entitled "Descriptions of new species of holophthalmous *Ascalaphidæ*."

Mr. W. L. Distant communicated a paper entitled "Descriptions of four new species of the genus *Fulgora*."

Mr. F. Enock read a paper entitled "Additional notes and observations on the life-history of *Atypus piceus*." Every detail in the life-history of this spider was most elaborately illustrated by a large number of photographs, made by Mr. Enock from his original drawings, and shown by means of the oxy-hydrogen lantern. A discussion followed, in which Mr. C. O. Waterhouse, Dr. Sharp, Mr. G. C. Champion, the Rev. A. E. Eaton, Mr. P. Crowley, and others took part.—H. Goss, *Hon. Secretary*.

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# THE ZOOLOGIST

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EDITED BY

J. E. HARTING, F.L.S., F.Z.S.

MEMBER OF THE BRITISH ORNITHOLOGISTS' UNION.

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